DROUGHT MANAGEMENT STRATEGIES FOR BEEF CATTLE*

Drought develops progressively and not overnight. Management of the ranch during a drought depends on the balance between stocking density and the availability of feed and water. In the long run, you can protect your interests by sound planning to make your ranch decisions less sensitive to drought. Early decisions need to be based on what relief measures are potentially available on the ranch. Among the important factors are guessing the expected duration of the drought, the current water and feed inventories, the body condition of the cowherd and financial resources available. During drought, decisions may often be made on emotion rather than logic. The main goal is to make objective decisions and get skilled help when necessary.

Drought is a serious obstacle to successful range livestock management. Producers must understand how drought affects plants, grazing animals, and livestock management, and what options exist. Forage production is decreased dramatically, but reductions are less on range in good condition. Excessive grazing (more than 60% of current year's growth) decreases the ability of some plants to recover. A drought may require that livestock numbers be reduced according to forage supply. Retaining a rotational grazing system during drought is recommended over continuous grazing because periodic rests help plants maintain vigor. Concentrating more animals into a single herd is recommended over having several smaller herds because by having more animals in a pasture, their entire pasture will be grazed more uniformly, and more use will be made of the less-preferred plants.

The producers who survive best during drought are those who adopt sound management and financial plans and review them regularly. Four factors which affect risk management during drought include: 1) the total population of cattle in relation to feed availability, 2) how widespread the drought-area is, 3) the time of year and the likely hood of rain and return to adequate feed supplies in your area and, 4) evaluation of cash flow needs (borrowing your way through drought to maintain traditional herd size may inhibit long-term profitability).

Questions to answer when facing drought:

- Are my cows losing weight or not performing adequately?
- Will I have to start to provide supplements?
- If the drought continues, should I cull non-productive animals?
- What feeds are available to the ranch?
- Assuming that I will have to purchase supplemental feeds, are they available and at what cost?
- Is one option to sell hay and buy back grain for limit feeding?
- Do I have the feed resources to allow for full feeding vs. supplementary feeding only vs. limit feeding of grain?

Keep the following in mind with regard to cow management:

- Fertility of cows may decline when their body condition drops below 4.

- Early weaning of calves is one option which allows cows to rebuild body reserves and rebreed the next year.
- Money and diminishing feed reserves are too valuable to waste on cows that are unproductive, not pregnant or are unsound.

Considerations for water during drought: Cattle water requirements may double during hot weather. If cattle do not meet their water needs, they may refuse to eat, experience lowered production, and become sick. The following table provides estimates of water consumption for cattle.

Estimated water consumption by different classes of beef cattle (North Dakota Extension Service)

Class of beef cattle	Estimated water consumption at 88 ^{o}F, gallons/day
Cows	
Dry	14
Lactating	17
Bulls	18
Growing Cattle	
400 lbs	9
600 lbs	12
800 lbs	14
Finishing Cattle	
600 lbs	14
800 lbs	17
1000 lbs	20
1200 lbs	23

In some areas you may be able to develop a spring or seep. A spring with a flow rate of ½ gallon per minute provides 720 gallons per day. Consider the possibility of installing a larger storage tank and piping water to troughs. You may need to install high-pressure plastic pipe to carry water from a central source. Although expensive initially, pipelines will prove useful for many years. Hauling stock water is expensive and time consuming, but may be a viable strategy in some situations.

One concern about cattle drinking stagnant pond water during hot, dry weather is that animals can die if water contains certain species of blue-green algae. If concentrations of blue-green algae are suspected, walk around to the windy side of the water body. If any dead animals such as mice, muskrats, birds, snakes, or fish are present, assume a poisonous condition exists. Copper sulfate is most commonly used to treat toxic water. Eight pounds of copper sulfate per 1,000,000 gallons of water is usually considered the upper level of treatment.

Producers generally have two options for meeting the nutrient requirements of cattle on drought affected pastures and ranges. The first is to provide supplemental feed to ensure the cowherd has adequate energy, protein, vitamins, and minerals. The second is to

reduce the nutrient requirements of the cow to a point where they can be met with available forage.

General cow herd drought supplementation recommendations:

- MINERALS—Complete mineral supplement containing 10-20% salt, 12% calcium, 12% phosphorus, 5% magnesium, 0.4% zinc (4000ppm), and 0.2% copper (2000ppm). Any special mineral supplementation needs in your specific area should continue to be met.
- PROTEIN—Lactating cows – 0.9-1.2 pounds of supplemental crude protein. Dry cows – 0.5-0.75 pounds of supplemental crude protein.
- ENERGY—Up to 0.2% of cow body weight of supplemental grain per head per day. Excess supplemental grain can reduce forage intake and digestibility, resulting in less energy available to the animal from available forage. Some grain supplements may need to be processed to obtain full utilization.

If pasture conditions are extremely poor, producers may consider feeding cows in drylot. This may be more cost effective than supplementation if large amounts of supplement must be transported and fed to cows daily. In addition, it may allow pastures a much needed rest period to begin recovering from drought.

One of the simplest ways to reduce cow nutrient requirements is to wean the calf. This practice can cut nutrient requirements by one-third to one-half depending on milk production of the cow. Producers may consider early weaning only a portion of the herd. In this case, logical candidates for early weaning are cows nursing their first and second calves. These animals have nutrient requirements for growth in addition to maintenance and lactation.

*Summarized from fact sheet written by John Paterson, Greg Lardy, Rick Funston, and Ron Carlstrom